

Application No. 10/681,245
Reply After Final dated July 1, 2005
Reply to Office Action dated April 5, 2005

IN THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application.

Listing of Claims:

1. (Cancelled)
2. (Currently Amended) A fuel supply system for an internal combustion engine according to Claim [[1]] 5, wherein said vaporized-fuel branch section located in said bypass air intake passage and said vaporized-fuel distribution passage are united with said air intake pipe.
3. (Currently Amended) A fuel supply system for an internal combustion engine according to Claim [[1]] 5, wherein the cross-sectional area of said opening of said vaporized-fuel distribution passage is made smaller than the cross-sectional area of said vaporized-fuel distribution passage.
4. (Currently Amended) A fuel supply system for an internal combustion engine according to Claim [[3]] 5, wherein an air flow is generated in the cylinder of an internal combustion engine.
5. (Currently Amended) A fuel supply system for an internal combustion engine ~~according to Claim 1~~ comprising:
an air intake pipe for taking in air;
a throttle valve disposed in said air intake pipe for controlling an amount of said air;

a downstream fuel injection valve located near an air intake port of a cylinder of an internal combustion engine or inside a cylinder;

a bypass air intake passage for bypassing said throttle valve located upstream of said downstream fuel injection valve;

a fuel vaporizing section including an upstream fuel injection valve connected to said bypass air intake passage; and a heater for vaporizing fuel injected from said upstream fuel injection valve; said bypass air intake passage having a vaporized-fuel branch section for channeling said vaporized fuel to said each cylinder, and a vaporized-fuel distribution passage extending from said vaporized-fuel branch section to an opening located in each air intake pipe located downstream of said throttle valve, wherein concerning the length of said bypass air intake passage, the shortest passage between those cylinders that have overlapping air intake timing is longer than the shortest passage between those cylinders that do not have overlapping air intake timing.

6. (Cancelled)

7. (Currently Amended) A fuel supply system for an internal combustion engine ~~according to Claim 1~~ comprising:

an air intake pipe for taking in air;

a throttle valve disposed in said air intake pipe for controlling an amount of said air;

a downstream fuel injection valve located near an air intake port of a cylinder of an internal combustion engine or inside a cylinder;

a bypass air intake passage for bypassing said throttle valve located upstream of said downstream fuel injection valve;

a fuel vaporizing section including an upstream fuel injection valve

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connected to said bypass air intake passage; and a heater for vaporizing fuel injected from said upstream fuel injection valve; said bypass air intake passage having a vaporized-fuel branch section for channeling said vaporized fuel to said each cylinder, and a vaporized-fuel distribution passage extending from said vaporized-fuel branch section to an opening located in each air intake pipe located downstream of said throttle valve, wherein an orifice is disposed in said vaporized-fuel distribution passage which is connected to each cylinder, and the diameter of the orifice of at least one of said cylinders is different from that of other cylinders, and said orifice is located slightly upstream in said vaporized-fuel distribution passage.

8. (Currently Amended) A fuel supply system for an internal combustion engine according to ~~Claims 1~~ Claim 5, wherein said bypass air intake passage is made of resin.

9. (Currently Amended) A fuel supply system for an internal combustion engine according to Claim ~~[[1]]~~ 7, further comprising:

a bypass air volume control section disposed in said bypass air intake passage for controlling an amount of air flowing from upstream to downstream through said air intake passage.

10. (Original) A fuel supply system for an internal combustion engine according to Claim 9, wherein said bypass air volume control section controls the amount of air necessary for atomizing fuel injected from an upstream fuel injection valve constituting said fuel vaporizing section and also controls the amount of air necessary for conveying vaporized fuel.

11. (Original) A fuel supply system for an internal combustion engine according to Claim 10, wherein said air volume control section also controls the amount of air so that the predetermined number of revolutions of the internal combustion engine can be attained.

12. (Currently Amended) A fuel supply system for an internal combustion engine according to Claim ~~[[1]]~~ 5, wherein the necessary fuel for one combustion is injected from the upstream fuel injection valve constituting said fuel vaporizing section at least in twice per air intake process.

13. (Original) A fuel supply system for an internal combustion engine according to Claim 12, wherein fuel injection is performed according to a predetermined degree of the crank angle or according to a predetermined fuel injection time.

14. (Original) A fuel supply system for an internal combustion engine according to Claim 13, wherein from a second fuel injection, fuel is injected according to a different degree of said crank angle or according to different fuel injection time.

15. (Original) A fuel supply system for an internal combustion engine according to Claim 12, wherein the number of said fuel injections is controlled to increase as the temperature of said internal combustion engine decreases.